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- (71) Applicants (*for all designated States except US*):
SAGAMI CHEMICAL RESEARCH CENTER [JP/JP];
4-1, Nishi-Onnuma 4-chome, Sagamihara-shi, Kanagawa
229-0012 (JP). PROTEGENE INC. [JP/JP]; 2-20-3,
Naka-cho, Meguro-ku, Tokyo 153-0065 (JP).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): KATO, Seishi
[JP/JP]; 3-46-50, Wakamatsu, Sagamihara-shi, Kanagawa
229-0014 (JP). KIMURA, Tomoko [JP/JP]; 715, 2-9-1,
Kohoku, Tsuchiura-shi, Ibaraki 300-0032 (JP).
- (74) Agents: AOYAMA, Tamotsu et al.; Aoyama & Partners,
IMP Building, 3-7, Shiromi 1-chome, Chuo-ku, Osaka-shi,
Osaka 540-0001 (JP).
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(54) Title: HUMAN PROTEINS HAVING HYDROPHOBIC DOMAINS AND DNAs ENCODING THESE PROTEINS

(57) Abstract: The present invention provides human proteins having hydrophobic domains, DNAs encoding these proteins, expression vectors for these DNAs, transformed eukaryotic cells expressing these DNAs and antibodies directed to these proteins.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP 00/03944

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/705 C07K14/47 C07K16/18 C07K16/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 21328 A (KATO SEISHI ;PROTEGENE INC (JP); SEKINE SHINGO (JP); SAGAMI CHEM R) 22 May 1998 (1998-05-22) page 13 -page 18, paragraph 1; claims 1-5; figures 1,2 ---	1-7
X	DATABASE WPI Section Ch, Week 199923 Derwent Publications Ltd., London, GB; Class B04, AN 1999-277254 XP002151126 -& WO 99 18126 A (ONO PHARM CO LTD), 15 April 1999 (1999-04-15) page 114 -page 137 --- -/--	1-7

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

26 October 2000

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

van Klompenburg, W

INTERNATIONAL SEARCH REPORT

International Application No

P 00/03944

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE EMBL [Online] EBI; ACC. NO.: AA062589, 25 September 1996 (1996-09-25) HILLIER ET AL.: "Generation and analysis of 280,000 human expressed sequence tags" XP002151123 the whole document</p> <p>---</p>	1-7
X	<p>DATABASE EMBL [Online] EBI; ACC. NO.: AA913157, 16 April 1998 (1998-04-16) STRAUSBERG: "National cancer institute, Cancer genome anatomy project" XP002151124 the whole document</p> <p>---</p>	1-7
X	<p>DATABASE EMBL [Online] EBI; ACC.NO.: AB023224, 9 April 1999 (1999-04-09) NAGASE ET AL.: "Homo sapiens mRNA for KIAA1007, partial cds." XP002151125 the whole document -& NAGASE ET AL.: "Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro" DNA RESEARCH, vol. 6, 26 February 1999 (1999-02-26), pages 63-70, XP000952912 KIAA1007 figure 1; table 1</p> <p>---</p>	1-7
A	<p>D'ANDREA ET AL: "Molecular Cloning of NKB1. A Natural Killer Cell Receptor for HLA-B Allotypes" JOURNAL OF IMMUNOLOGY,US,THE WILLIAMS AND WILKINS CO. BALTIMORE, vol. 155, no. 5, 1 September 1995 (1995-09-01), pages 2306-2310, XP002111500 ISSN: 0022-1767 abstract. page 2308, column 1 page 2307, column 2, line 16</p> <p>---</p> <p>-/--</p>	1-7

INTERNATIONAL SEARCH REPORT

International Application No

JP 00/03944

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>GILLEN C M ET AL: "Molecular cloning and functional expression of the K-Cl cotransporter from rabbit, rat, and human" JOURNAL OF BIOLOGICAL CHEMISTRY, US; AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, vol. 271, no. 27, 5 July 1996 (1996-07-05), pages 16237-16244, XP002119528 ISSN: 0021-9258 abstract; figures 3,4</p> <p>---</p>	1-7
A	<p>KYTE J ET AL: "A SIMPLE METHOD FOR DISPLAYING THE HYDROPATHIC CHARACTER OF A PROTEIN" JOURNAL OF MOLECULAR BIOLOGY, GB, LONDON, vol. 157, no. 1, 5 May 1982 (1982-05-05), pages 105-132, XP000609503 ISSN: 0022-2836 cited in the application page 129 -page 130; figures 1-8; tables 1-6</p> <p>---</p>	1-7
P,X	<p>WO 99 31236 A (BOUGUELERET LYDIE ;DUCLERT AYMERIC (FR); GENSET (FR); DUMAS MILNE) 24 June 1999 (1999-06-24) SEQ ID NO. 346 page 262 -page 263; claims 1-20</p> <p>-----</p>	1-7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP 00/03944

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7 all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-7 all partially

A protein comprising amino acid sequence according to SEQ ID NO 1, a DNA sequence of SEQ ID NO 11 or 21, encoding this protein, as well as an expression vector capable of expressing this sequence and a eukaryotic cell expressing the DNA, as well as an antibody direct against the above mentioned protein.

2. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:2,12,22

3. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:3,13,23

4. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:4,14,24

5. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:5,15,25

6. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:6,16,26

7. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:7,17,27

8. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:8,18,28

9. Claims: 1-7 all partially

Identical to invention 1, but limited to SEQ ID NO:9,19,29

10. Claims: 1-7 all partially

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Identical to invention 1, but limited to SEQ ID NO:10,20,30

INTERNATIONAL SEARCH REPORT

on patent family members

International Application No

P 00/03944

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9821328	A	22-05-1998	AU 4885297 A EP 0941320 A	03-06-1998 15-09-1999
WO 9918126	A	15-04-1999	EP 1022286 A	26-07-2000
WO 9931236	A	24-06-1999	AU 1049199 A AU 1503099 A EP 1029045 A EP 1037977 A WO 9925825 A AU 2294499 A EP 1053318 A WO 9940189 A	07-06-1999 05-07-1999 23-08-2000 27-09-2000 27-05-1999 23-08-1999 22-11-2000 12-08-1999